Sub 6/10

This Service Manual covers
the Sub6 and Sub10 models

SERVICE MANUAL

JBL Consumer Products
250 Crossways Park Dr.
Woodbury, New York 11797

RevB 7/2003

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SPECIFICATIONS

	SUB6	SUB10
Amplifier Power (RMS)	60 Watts	100 Watts
Woofer Size	6-1/2”	10”
Inputs	Line and Speaker Level	Line and Speaker Level
Outputs	High Pass Speaker Level	High Pass Speaker Level
Crossover Frequency (continuously variable)	90Hz - 200Hz	90Hz - 200Hz
Frequency Response *Determined by crossover setting	40Hz - (90Hz - 200Hz)*	38Hz - (90Hz - 200Hz)*
External Dimensions		
Height	17" (432mm)	24” (608mm)
Width	12-3/4” (324mm)	17-3/4” (450mm)
Depth	11-1/8” (282mm)	13-1/2” (342mm)
Weight	26 lbs/11.8 kg	48 lbs/21.8 kg

FEATURES

- Rugged molded plastic front baffle
- Adjustable crossover point
- Adjustable volume control
- Speaker and Line Level inputs
- Auto turn-on/turn-off

JBL continually strives to improve its products. New materials, production methods and design refinements are introduced into existing models without notice as a routine expression of our design philosophy. For this reason, Sub 6/10 may differ in some respect from their published specifications and descriptions, but will always equal or exceed the original specifications unless otherwise stated.

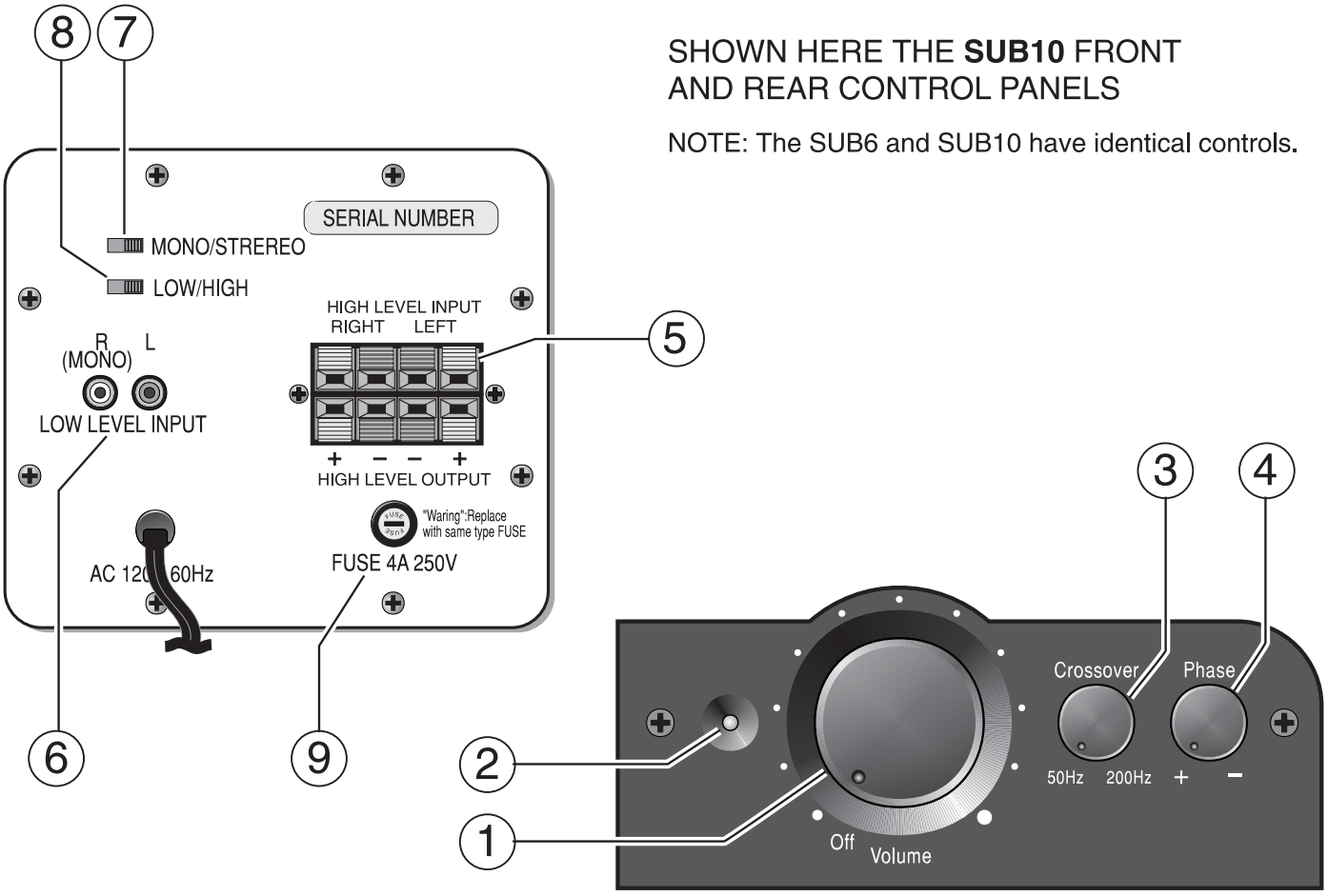
SUB6/10 DISASSEMBLY PROCEDURE

1. Unplug all external connecting cables.
2. Place the subwoofer on a padded surface so that the controls are facing upwards.
3. Remove (2) ¾" Philips screws (S4) holding the control panel in place.
4. Remove (6) ½" Philips screws (S4) holding the heatsink/amplifier in place.
5. Remove both assemblies partially out of the cabinet and rest them on the cabinet surface; no additional connectors need to be removed as this should be sufficient for most servicing, although driver damage may result from using the woofer for a load during testing. Following Page 4 (Driver Function) Step 1 to remove woofer and replace with a 4 ohm 100W Resistor if necessary.
6. For further disassembly - Remove the three remaining molex connectors CN301 or CN301A, CN306 & CN902A from the board(s), cutting the tie wraps holding the cables in place. Remove board assemblies.
7. Turn the subwoofer over so that the input connectors face upward; remove the (8) 1" Philips screws (S2) on the input plate; remove the (2) ½" Philips screws on both sides of the High Level Input Connectors.
8. Pull plate away from the cup and cabinet, exposing components.
9. Removal of power transformer: Remove the ½" plated screws holding the small oval cover inside the input cup; remove cover.
10. Cut the cable tie and remove/cut the wires nuts attaching the transformer wires to the power cord.
11. Pull on entire input assembly, including cup, away from cabinet - there may be enough slack in the wires to expose the inner cabinet and connectors. If not, you must enter through the woofer opening; cut the tie wrap to the gray cable and unplug molex connector CN305B.
12. Unplug molex connector CN901 attaching transformer output wires to inner connector board.
13. Remove (4) Philips machine bolts (S7) holding the transformer to the cabinet; each bolt has a nut (N1) on the inside of the cabinet that should be held with a 5/16" nut driver or wrench.
14. Remove power transformer from cabinet.

Reassembly - follow disassembly procedures in reverse order, replacing cables ties where cut, and wire nuts when removed.

Sub10 only - when the heatsink/amplifier and control board is installed, there is a notch in the plastic baffle for the connecting cables between the two surfaces; make sure the connecting cables are routed through this notch or the control panel will not seat properly in its bezel.

SUB6/10 CONTROLS



SHOWN HERE THE **SUB10** FRONT AND REAR CONTROL PANELS

NOTE: The SUB6 and SUB10 have identical controls.

1. Volume/Power - This knob controls the volume as well as the power status of the subwoofer. The Sub6/10 subwoofers incorporate an AutoTurn-On/Off Circuit. Turn the volume knob completely counterclockwise to turn the subwoofer OFF.

2. LED - Red/Green. This LED indicates the Mode status that the subwoofer is in. The LED will light Green when the Volume knob is turned clockwise to ON. The LED will light Red when the Volume knob is turned off (the knob turned fully clockwise) or the receiver/amplifier has been turned off for five minutes. The subwoofer will turn on when your receiver/amplifier begins playing again.

3. Crossover Frequency - The crossover frequency knob determines the highest frequency your subwoofer will reproduce. It allows a seamless transition from the subwoofer to the satellite speakers.

4. Phase - The phase switch is used to adjust the relative polarity of the subwoofer.

5. High Level Inputs - These High Level Inputs are for receivers that do not have line-level “pre-amp out” or “subwoofer out” jacks. When a pair of main or satellite speakers are attached to the OUTPUT terminals, they are driven the full range of frequencies as generated by the music source (receiver, amplifier, etc.)

6. Low Level Input - These left and right Line Level Inputs are normally used when the receiver/ processor has line-level “pre-amp out ” or “subwoofer out” jacks.

7. Mono/Stereo - This setting of this switch affects the subwoofer when using the Low Level Input only. If you are using a dual (stereo) RCA cable, set the switch to STEREO; if using a single (mono) RCA cable, plug into the (R) Input Jack and set the switch to MONO.

8. Low/High - The setting of this switch depends on which method of Input Connection you will be using. When using the Low Level Input (RCA Connectors), set the switch to LOW; when using the High Level Input (Speaker Connectors), set the switch to HIGH.

9. Fuse - Use only same type of fuses. Use a 3.15A 250V fuse for the 120 volt American version and use a 4A 250V fuse for the 230 volt European version.

SUB6/10 POWERED SUB WOOFER TEST SETUP

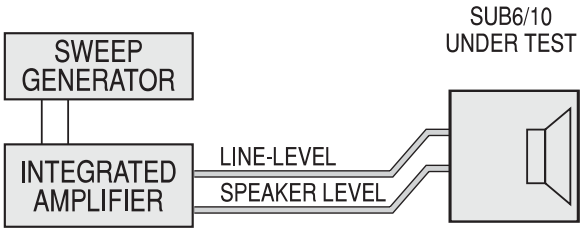
EQUIPMENT

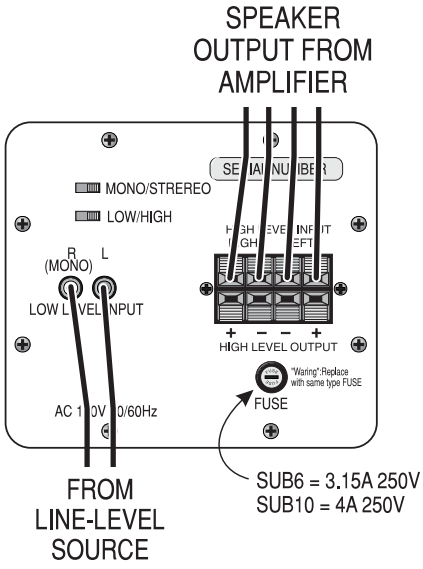
Function generator/signal generator/sweep generator

Integrated Amplifier

Multimeter

Cables - line level (RCA) and speaker cables





TEST PROCEDURE

Equipment Needed:

- Function generator/signal generator/sweep generator
- Integrated Amplifier
- Multimeter
- Cables - Line level (RCA) and Speaker cables

UUT = Unit Under Test

General Function

1. Connect both left and right line level inputs (RCA) to signal generator and UUT. When using a mono source make sure the cable is inserted into the right input jack and the “mono/stereo” switch is set to “mono”. Turn Frequency Response control to maximum (300 Hz).
2. Turn on generator and adjust to **50mV, 50 Hz.**
3. Plug in UUT; red LED should be ON. Turn volume knob full clockwise to turn unit ON for maximum output.
4. Green LED should light, immediate bass response should be heard and felt from port tube openings.
5. Turn off generator, turn volume knob all the way down to OFF, disconnect RCA cables.
6. Connect two pairs of speaker cables to high level input terminal on UUT. Cables should be connected to an integrated amplifier fed by the signal generator. **Observe polarity of speaker cables.**
7. Turn on generator and adjust so that speaker level output is **1.2V, 50 Hz**.
8. Turn volume knob full clockwise to turn unit ON for maximum output.
9. Green LED should light, immediate bass response should be heard and felt from port tube opening.

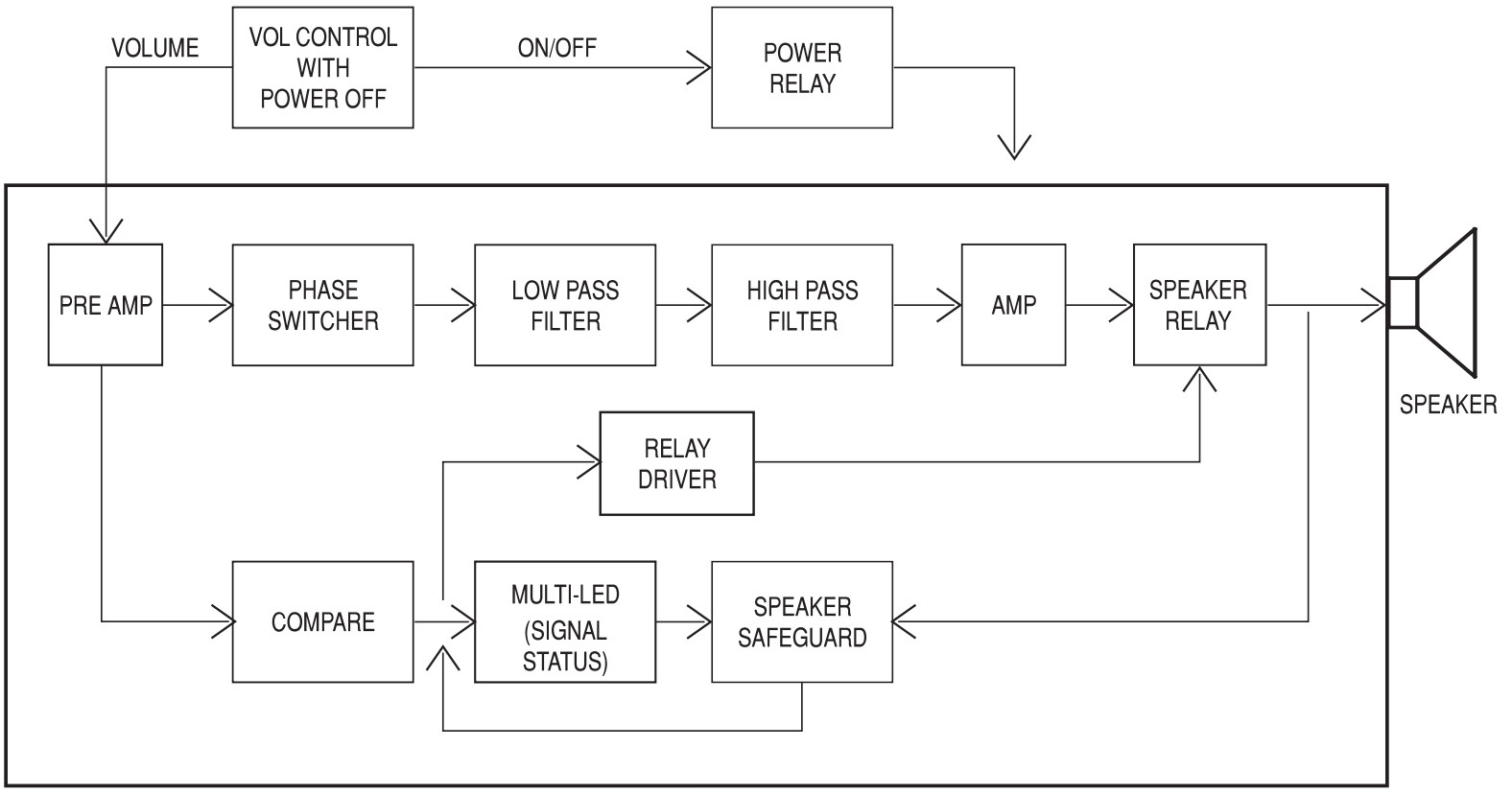
Sweep Function

1. Follow steps 1-4 above, using a sweep generator as a signal source.
2. Sweep generator from **20Hz to 300Hz**. Listen to the cabinet and drivers for any rattles, clicks, buzzes or any other noises. If any noises are heard, remove driver and test.

Driver Function

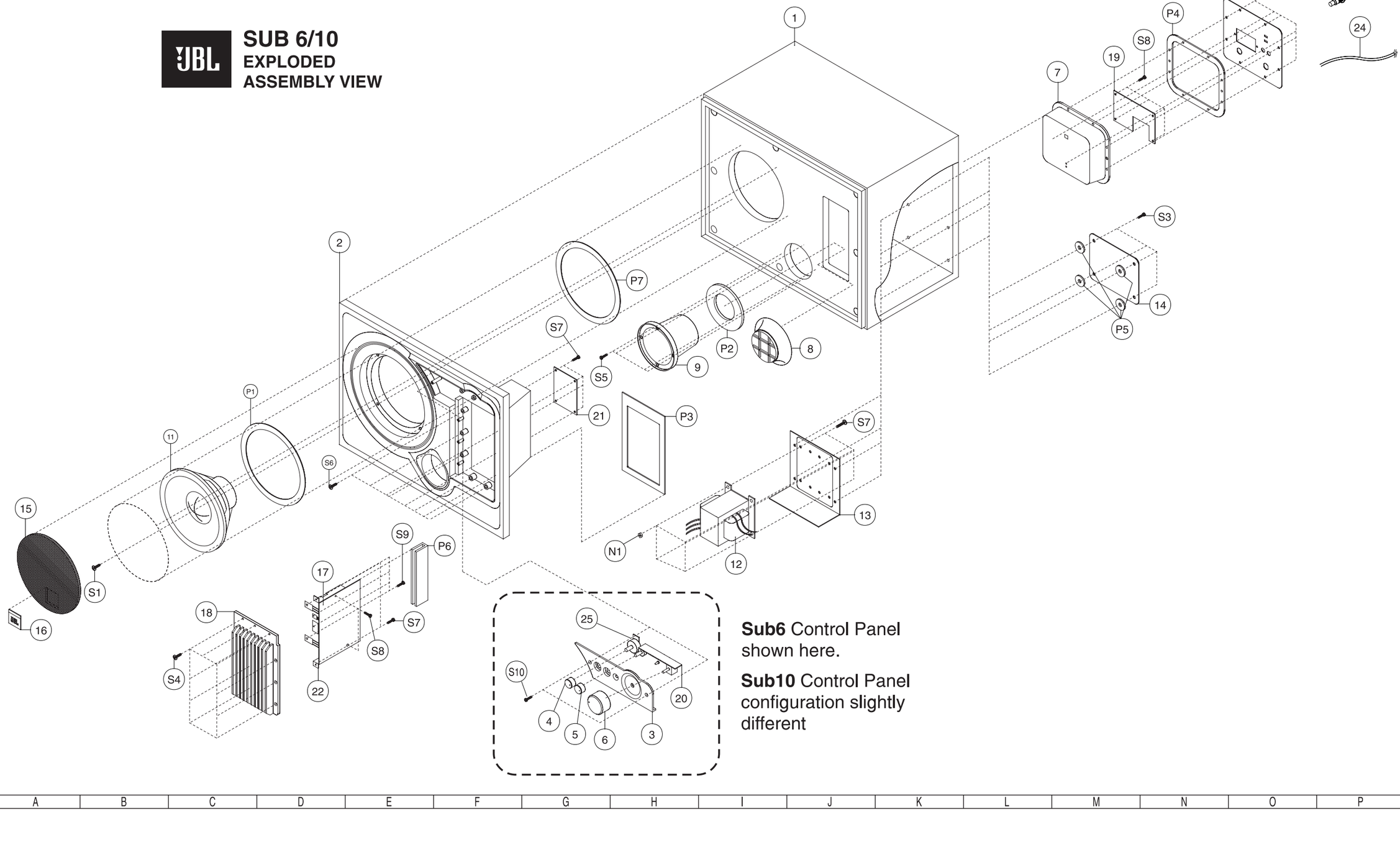
1. Carefully pry metal grille out of its recess with a sharp pointed instrument - USE CAUTION. Remove all 8-32 x 2” Philips mounting screws; remove woofer and detach both terminals.
2. Check DC resistance of driver; it should be **Sub6 = 3.4 ohms, Sub10 = 3.0 ohms**.
3. Connect a pair of speaker cables to driver terminals. Cables should be connected to an integrated amplifier fed by a signal generator. Turn on generator and adjust so that speaker level output is **5.0V**.
4. Sweep generator from **20Hz to 1kHz**. Listen to driver for any rubbing, buzzing or other unusual noises.

SUB6/10 Block Diagram



SUB 6/10 EXPLODED ASSEMBLY VIEW (refer to pages 7 and 10)

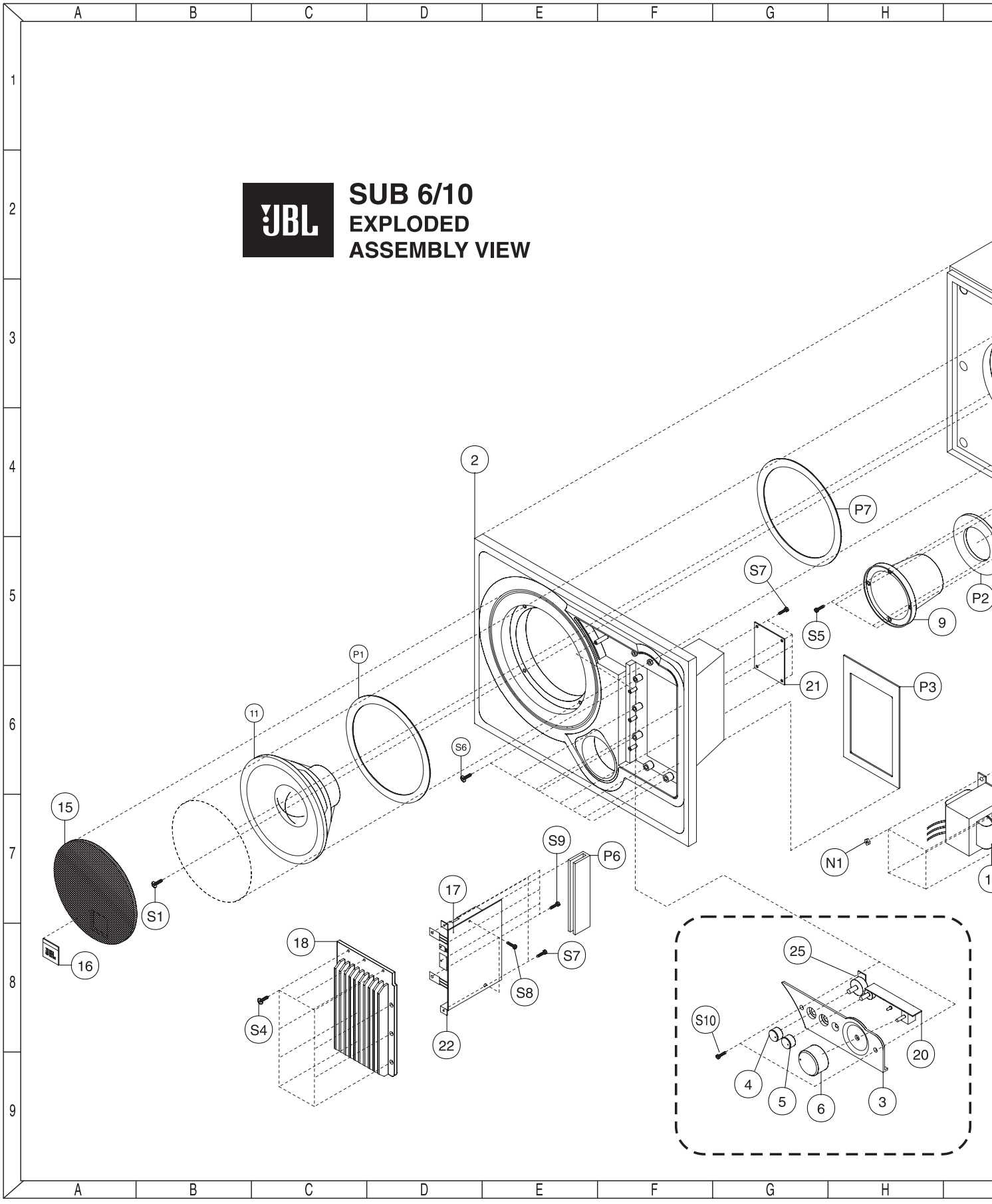
SUB 6/10
EXPLODED ASSEMBLY VIEW



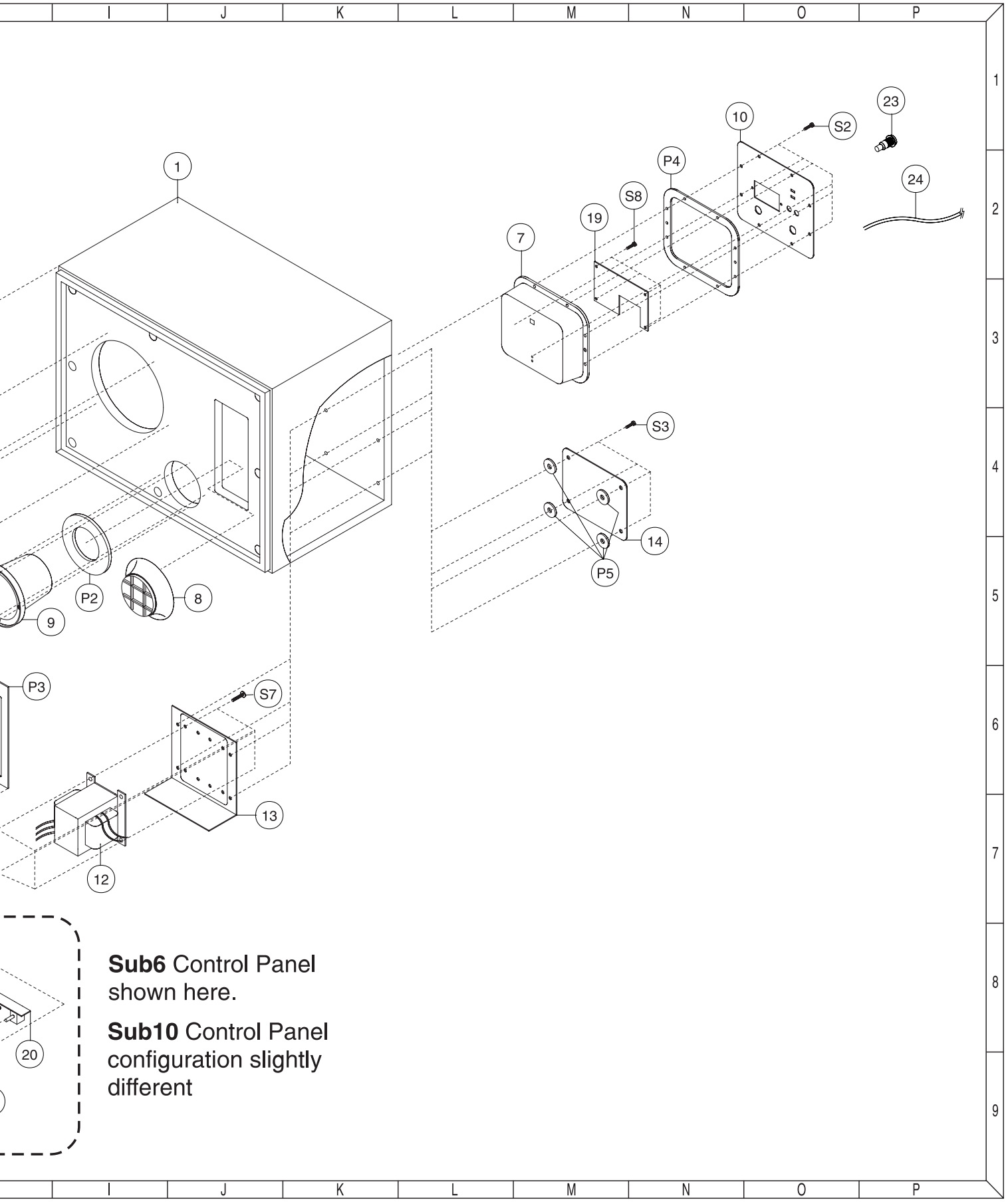
Sub6 Control Panel shown here.

Sub10 Control Panel configuration slightly different

SUB 6/10 EXPLODED ASSEMBLY VI



EMBLY VIEW (refer to pages 7 and 10)



Sub6 Control Panel shown here.

Sub10 Control Panel configuration slightly different

SUB6 PART LISTS

SUB 6-MECHANICAL PARTS LIST

Ref No.	Part No.	Description	Qty.
1	EVM0006-001	WOOD BOX	1
2	J1333B J1333W	FRONT CAB (BLACK) FRONT CAB (WHITE)	1 1
3	J3298A	CNTL PANEL	1
4	J3404B J3404W	PHASE KNOB (BLACK) PHASE KNOB (WHITE)	1 1
5	J3402B J3402W	FREQ. KNOB (BLACK) FREQ. KNOB (WHITE)	1 1
6	J3403B J3403W	VOL. KNOB (BLACK) VOL. KNOB (WHITE)	1 1
7	J3400	REAR COVER	1
8	J2093B	PORT EDGE	1
9	J2093A	PORT TUBE	1
10	K4249	JACK PLATE	1
11	C6093B	6 1/2" WOFFER	1
12	TT11000-001 TT11200-111 TT112300-108	(100V) X'FORMER (120V) X'FORMER (230V) X'FORMER	1 1 1
13	K6250	X'FORMER BRACKET	1
14	K6251	X'FORMER PLATE	1
15	K6247 K6247W	GRILLE (BLACK) GRILLE (WHITE)	1 1
16	J3296/K6228A	LOGO PLATE	1
17	E4219	AMP PCB ASS'Y	1
18	K6248 K6248W	HEAT SINK (BLACK) HEAT SINK (WHITE)	1 1
19	E4220	JACK PCB ASS'Y	1
20	E4216	VR/LED PCB ASS'Y	1
21	E4218	CON PCB ASS'Y	1
22	GSE0073-002	PCB BRACKET	1
23	E4214B	FUSE HOLDER	1
24	47455-058 47455-052 2559-022022	(100V) LINE CORD (120V) LINE CORD (230V) LINE CORD	1 1 1
25	E4217	SW PCB ASS'Y	1
N1	HNI1482	NUT FOR PLT+X'FORMER BKT	1
P1	J3297F	DRIVER GASKET	1
P2	J3297C	PORT GASKET	1
P3	J3297D	FRONT GASKET	1
P4	J3297E	COVER GASKET	1
P5	J3297A	X'FORMER GASKET	1
P6	J3297B	AMP GASKET	1
P7	J3297G	BAFFLE GASKET	1
S1	F5010	SCREW FOR SPK 8 xM4xL50	8
S2	F2021	SCREW FOR JACK PLATE 9 xM4xL20	9
S3	F2509	SCREW FOR X'FORMER PLT 9 xM5xL25	9
S4	F1618	SCREW FOR HEATSINK #5.8 x 16mm L	9
S5	F1226	SCREW FOR PORT TUBE 7 xM4xL12	7
S6	F2507	SCREW FOR BAFFLE 8 xM4xL25	8
S7	F1813	SCREW FOR PLT+X'FORMER BKT/PCB BKT TO HSINK	4
S8	F1014	SCREW FOR JACK PCB/AMP PCB 5.3 xM3xL10	8
S9	H120301-308	SCREW FOR PCB TO PCB BKT/IC TO HSINK 3 xL8	3
S10	F1679	SCREW TO CONTROL PANEL #6.3 x 16mm L (Black)	2

SUB 6-ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	Qty.
Capacitors			
C101-102	PVE3955-332	ELECT 3300 50V 20%	2
C103	PRE3955-101	COND ELECT 100 uF 50V 20%	1
C104, 901	PRE3952-101	COND ELECT 100 uF 16V 20%	2
C105	PRE3955-220	COND ELECT 22 uF 50V 20%	1
C106, 120	PRM3737-333	COND MYLAR 0.033 uF 100V 5%	2
C107	PRE3954-101	COND ELECT 100 uF 35V 20%	1
C108-109	PRE3954-100	ELECT 10 uF 35V 20%	2
C110	PRE3955-478	COND ELECT 0.47 uF 50V 20%	1
C111	PRE3951-101	COND ELECT 100 uF 10V 20%	1
C112-113	PRE3953-101	COND ELECT 100 uF 25V 20%	2
C114	PRD1335-150	COND DISC 15 pF 50V 5% NPO	1
C115, 121	PRM3737-683	COND MYLAR 0.068 uF 100V 5%	2
C116-117, C305-308	PRM3737-104	COND MYLAR 0.1 uF 100V 5%	6
C118, 301, 904-907	PRD8035-101	DISC 100 pF 50V 5% I SL D=5	6
C119, 125	PRE3955-479	COND ELECT 4.7 uF 50V 20%	2
C122	PRM3737-223	COND MYLAR 0.022 uF 100V 5%	1
C123	PRD8035-100	COND DISC 10pF 50V 5% I SL D=5	1
C160	PRE3954-220	COND ELECT 22 uF 35V 20%	1
C302	PRD8035-300	COND DISC 30pF 50V 5% I SL D=5	1
C303-304	PRD3965-104	DISC 0.1uF 50V +80-20% Y5V/Z5V	2

SUB6 PART LISTS (continued)

Ref. No.	Part No.	Description	Qty.
Resistors			
R101, 107, 113, 119	QAF0650-332	RESISTOR 3.3K OHM 1/6W 5% CF	4
R102, 111, 132, 133, 140, 174, 178, 905, 906, 907	QAF0650-103	10K OHM 1/6W 5% CF	10
R103, 179, 180	QAF0650-473	RESISTOR 47K OHM 1/6W 5% CF	3
R104, 136	QAF0650-683	RESISTOR 68K OHM 1/6W 5% CF	2
R105, 151	QHM2050-561	RESISTOR 560 OHM 2W 5% MF P=20.0 mm	2
R106, 117, 175, 176	QAF0650-224	220K OHM 1/6W 5% CF	4
R108	QAF0650-123	12K OHM 1/6W 5% CF	1
R109, 110, 124, 130	QAF0650-102	1K OHM 1/6W 5% CF	4
R112	QAF0650-105	1.0M OHM 1/6W 5% CF	1
R114, 118, 122	QAF0650-223	22K OHM 1/6W 5% CF	3
R115, 154, 172	QAF0650-104	100K OHM 1/6W 5% CF	3
R116	QAF0650-364	RESISTOR 360K OHM 1/6W 5% CF	1
R121	QAF0650-225	2.2M OHM 1/6W 5% CF	1
R125-128, 144, 147	QAF0650-153	15K OHM 1/6W 5% CF	6
R131, 135	QAF0650-183	18K OHM 1/6W 5% CF	2
R134	QAF0650-203	20K OHM 1/6W 5% CF	1
R139, 170	QAF0650-222	2.2K OHM 1/6W 5% CF	2
R141	QAF0650-151	150 OHM 1/6W 5% CF	1
R142	QAF0650-122	1.2K OHM 1/6W 5% CF	1
R143	QAF0650-392	RESISTOR 3.9K OHM 1/6 5% CF	1
R145	QAF0650-391	RESISTOR 390 OHM 1/6W 5% CF	1
R148, 155	QHS0250-100	RESISTOR 10 OHM 1/2W 5%	2
R149, 150	QAF0250-100	10 OHM 1/2W 5% CF	2
R152-153	QHE5050-228	RESISTOR 0.22 OHM 5W 5% CEMENT FIXED RES	2
R156	QAF0650-563	RESISTOR 56K OHM 1/6W 5% CF	1
R169	QAF0650-333	RESISTOR 33K OHM 1/6W 5% CF	1
R171	QAF0450-222	2.2K OHM 1/4W 5% CF 340X2222934	1
R173	QAF0650-331	330 OHM 1/6W 5% CF	1
R177	QAF0650-474	RESISTOR 470K OHM 1/6W 5% CF	1
R181	QAF0650-274	270K OHM 1/6W 5% CF	1
R901-902	QHM1050-152	RESISTOR 1.5K OHM 1W 5% METAL FILM	2
R903-904	QAF0650-154	RESISTOR 150K OHM 1/6W 5% CF	2
RD101	QAF0450-151	150 OHM 1/4W 5% CF	1
SVR101	QAF0650-202	2K OHM 1/6W 5% CF	1
ZD102	QAF0450-560	56 OHM 1/4W 5% CF 340X2560934	1
Diodes			
BD101	RHD0402-001	RECTIFIER BRIDGE RS402L 4A	1
D101-105	RAD4001-001	RECTIFIER 1N4001 1A 35VRMS	5
D105-112	RAD4148-001	DIODE SW 1N4148	7
ZD101	RAZ0859-086	DIODE ZENR 17.5-18.3V .5W HITACHI HZ18-2	1
ZD103	QAF0450-100	10 OHM 1/4W 5% CF 340X2100934	1
Transistors			
Q101-105, 107, 109, 112, 114, 115, Q120	RAN0945-001	XISTR NPN 2SC945P NEC	11
Q106, 108	RAP0733-001	PNP 2SA733Q,P NEC	2
Q121	RHP1264-001	XISTR PNP 2SA1264N-O TOSHIBA	1
Q122	RHN0882-001	XISTR NPN 2SD882P	1
Q123	RHN3181-001	XISTR NPN 2SC3181N-O TOSHIBA	1
Integrated Circuits			
IC101	RHI0740-001	IC 14 PIN TL074CN	1
IC102	RHI4558-001	IC 8 PIN JRC4558D JRC OP AMP	1

SUB6 PART LISTS (continued)

Ref. No.	Part No.	Description	Qty.
IC103	RHI1298-001	IC 14 PIN uPC1298V NEC 50-80W POWER AMP DRV	1
IC104	RHI7815-001	IC 3 PIN 78L15 REGULATOR POS. 15V 100mA	1
IC105	RHI7915-002	IC 3 PIN 79L15 REGULATOR NEG. 15V 100mA	1
Miscellaneous			
CN301	CCN1500-A18	CONNECTOR B2B-XH-A 2 PIN GOLD OVER 50 uin	1
CN305A	CCN1500-A42	CONNECTOR S2B-XH-A 2 PIN GOLD OVER 50 uin	1
CN305A-305B	4999A-274	CON/WIRE 2 COND 200 mm CON GOLD PLATING	1
CN305B	CCN1500-A18	CONNECTOR B2B-XH-A 2 PIN GOLD OVER 50 uin	1
CN306	CCN3951-002	CONNECTOR 2 PIN LEOCO 3951 P=3.96 POST BASE TOP	1
CN901	CCN3941-003	CONNECTOR 3 PIN PITCH=3.96mm POST BASE TOP	1
CN902A	CCN3951-003	CONNECTOR 3 PIN LEOCO 3951 P=3.96 POST BASE TOP	1
JK101	CJR6502-002	JACK RCA 2 TERM KUNMING	1
JK102	CTP0014-001	SPK JACK JYE TAI CJ-9011 8P JACK (R-B-B-R)	1
L101	SHR6619-001	RF COIL 1 uH	1
LD101	KEM0001-001	LED MULTI-COLOR LED TWO COLORS RED/GRN CHANG	1
RB301 TO	5002ECE9BMM	CON/WIRE 2 COND 350 mm CON GOLD PLATING	1
RB302A-302B	2468824KCCK	FLAT WIRE 8 240mm COLOR	1
RB303B TO RB303A	2468310KCCK	FLAT WIRE 3 COND 100 mm COLOR	1
RB304A-304B	2468724KCCK	FLAT WIRE 7 240mm COLOR	1
RB306 TO CN306	4999A-275	CON/WIRE 2 300 mm	1
RB307 TO SPEAKER	4999A-284	CON/WIRE 2 300 mm	1
RB902A TO CN902A	4999A-272	CON/WIRE 3 270 mm	1
F101	KSD2315-001	3.15A GMC SLO-BLO, 5x20mm FUSE	1
RL101	MRL2212-002	RELAY MI-SH-212LM 12V DC 44 mA GOOD SKY	1
RL102	MRL2212-005	RELAY SHINMEI RPA-12V DC 10A(AC)250V	1
SW101	MSR2612-001	SW ROTARY PHASE	1
SW102-103	MSS6542-002	SW SLIDE SS020-P022(2P2T)	2
VR101	MRR0503-011	50K x 2 DUAL GANG FREQUENCY POT.	1
VR102	MRR0503-008	10K VOLUME POT. w/ ON/OFF SWITCH	1
	001X0776001	SIL PAD 3000+-500LBS BERQUIST 400 20x25mm	2
	GAL0040-001	HEAT SINK JBL CM-6 60W BLACK	1
	GSE0073-002	PCB BKT JBL CM-10/CM-6	2
	GSI0001-001	SI RUBBER 13x18x0.3t mm	1
	GSI0003-001	SI RUBBER 16x28x0.3t mm	1

SUB10 PART LISTS

SUB10 MECHANICAL PART LIST

Ref No.	Part No.	Description	Qty.
1	EVM0005-001	WOOD BOX	1
2	J1334B J1334W	FRONT CAB (BLACK) FRONT CAB (WHITE)	1
3	J3405	PANEL REFLEX BLUE C	1
4	J3403B J3403W	VOL. KNOB (BLACK) VOL. KNOB (WHITE)	1
5	J3402B J3402W	FREQ. KNOB (BLACK) FREQ. KNOB (WHITE)	1 1
6	J3404B J3404W	PHASE KNOB (BLACK) PHASE KNOB (WHITE)	1 1
7	J3400	REAR COVER	1
8	J2095B	PORT EDGE	1
9	J2095A	PORT TUBE	1
10	K6249	JACK PLATE	1
11	C0012B	10" WOOFER	1
12	TTK1000-001 TTK1200-003 TTK2300-001	(100V) (120V) X'FORMER (230V) X'FORMER	1 1 1
13	K6250	X'FORMER BRACKET	1
14	K6251	X'FORMER PLATE	1
15	K6252 K6252W	GRILLE (BLACK) GRILLE (WHITE)	1 1
16	J3296/K6228A	LOGO PLATE	1
17	E4227	AMP PCB ASS'Y	1
18	K6253 K6253W	HEAT SINK (BLACK) HEAT SINK (WHITE)	1 1
19	E4228	JACK PCB ASS'Y	1
20	E4224	VR/LED PCB ASS'Y	1
21	E4226	CONNECTOR PCB ASS'Y	1
22	GSE0073-002	PCB BRACKET	1
23	E4214B	FUSE HOLDER	1
24	47455-058 47455-052 2559-022022	(100V) LINE CORD (120V) LINE CORD (230V) LINE CORD	1 1 1
25	E4225	SW PCB ASS'Y	1
N1	HNI1482	NUT FOR +X'FORMER BKT	4
P1	E3297K	DRIVER GASKET	1
P2	J3297H	PORT GASKET	1
P3	J3297J	FRONT GASKET	1
P4	J3297E	COVER GASKET	1
P5	J3297A	X'FORMER GASKET	1
P6	J3297B	AMP GASKET	1
P7	J3297L	BAFFLE GASKET	1
S1	F5010	SCREW FOR 8 xM4xL50	8
S2	F2021	SCREW FOR JACK PLATE 9 xM4xL20	9
S3	F2509	SCREW FOR PLT 9 xM5xL25	9
S4	F1618	SCREW FOR PANEL/HSINK 6.5 xM3xL16	11
S5	F1226	SCREW FOR PORT TUBE 7 xM4xL12	7
S6	F2507	SCREW FOR BAFFLE 8 xM4xL25	8
S7	F1813	SCREW FOR +X'FORMER BKT/PCB BKT TO HSINK	2
S8	F1014	SCREW FOR JACK PCB/AMP PCB 5.3 xM3xL10	2
S9	H120301-308	SCREW FOR PCB TO PCB / IC TO HSINK 3 xL8	4

SUB10 ELECTRICAL PART LIST

Ref No.	Part No.	Description	Qty.
Capacitors			
C103	PRE3955-101	COND ELECT 100 uF 35V 20%	1
C104, 901	PRE3952-101	ELECT 100uF 16V 20%	2
C105	PRE3955-220	COND ELECT 22 uF 50V 20%	1
C106, 120	PRM3737-333	COND MYLAR 0.033 uF 100V 5%	2
C107	PRE3954-101	COND ELECT 100 uF 35V 20%	1
C108-109	PRE3954-100	COND ELECT 10 uF 35V 20%	2
C110	PRE3955-478	COND ELECT 0.47 uF 50V 20%	1
C111	PRE3951-101	COND ELECT 100 uF 10V 20%	1
C112-113	PRE3953-101	COND ELECT 100 uF 25V 20%	2
C114	PRD1335-150	DISC 15 pF 50V NPO	1
C115, C121	PRM3737-683	COND MYLAR 0.068 uF 100V 5%	2
C116-117, 305-308	PRM3737-104	COND MYLAR 0.1 uF 100V 5%	6
C118, 301, 904, 905	PRD8035-101	COND DISC 100 pF 50V 5% I SL D=5	4
C119, 125	PRE3955-479	COND ELECT 4.7 uF 50V 20%	2
C122	PRM3737-223	COND MYLAR 0.022 uF 100V 5%	1
C123	PRD8035-100	COND DISC 10 pF 50V 5% I SL D=5	1
C160	PRE3954-220	COND ELECT 22 uF 35V 20%	1
C302	PRD8035-300	COND DISC 30 pF 50V 5% I SL D=5	1
C303-304	PRD3965-104	COND DISC 0.1 uF 50V +80-20% Y5V/Z5V	2
C904-905	PRD8035-101	DISC 100 pF 50V 5% I SL D=5	2

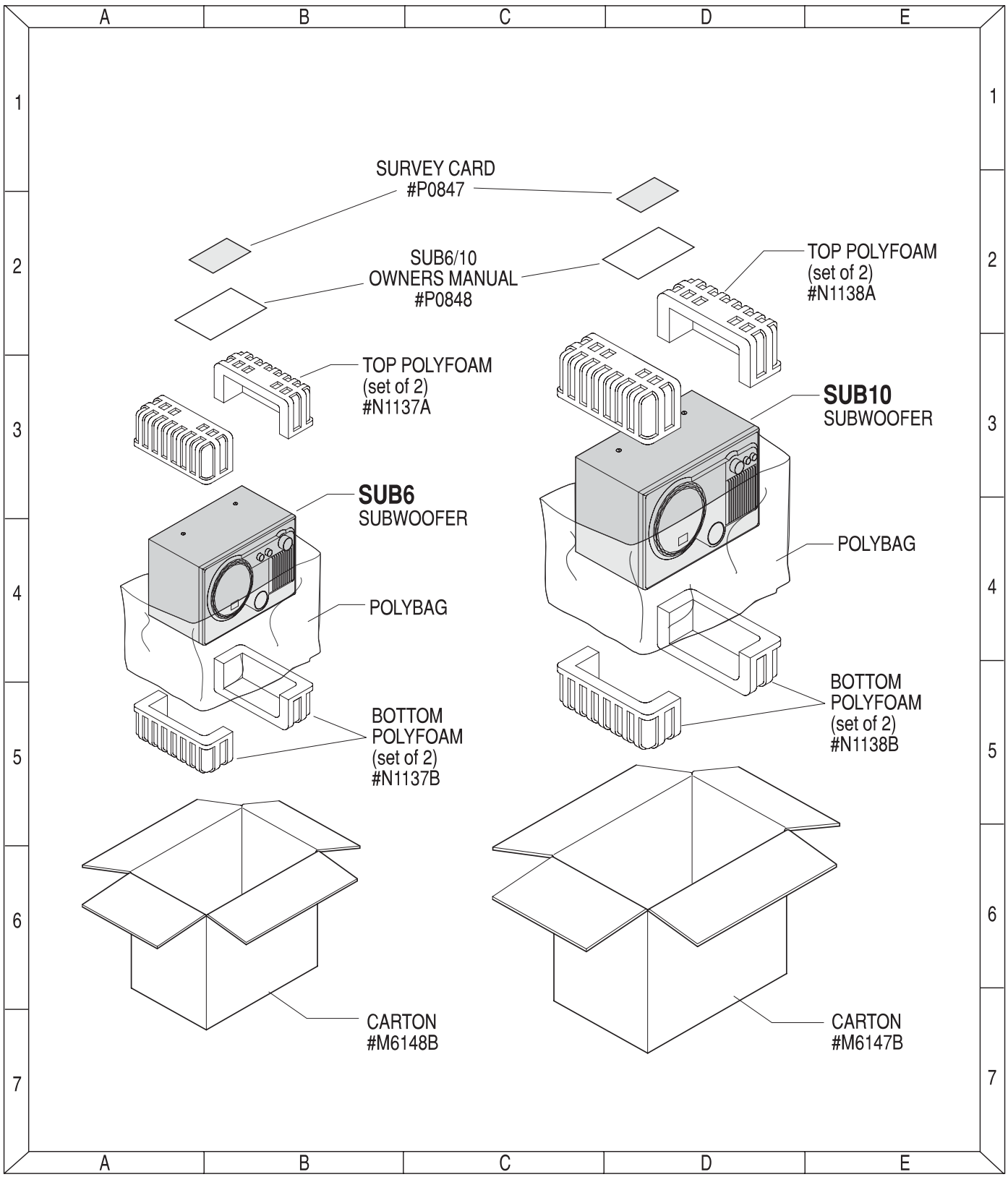
SUB10 PART LISTS (continued)

Ref No.	Part No.	Description	Qty.
C906-907	PRD3545-102	COND DISC 1000pF 50V 10% Y5P	2
Resistors			
R101, 107, 113, 119	QAF0650-332	3.3K OHM 1/6W 5% CF	4
R102, 111, 123, 129, 132, 133, 140, 157, 174, 178, 905, 906, 907	QAF0650-103	10K OHM 1/6W 5% CF	13
R103, 179-180	QAF0650-473	47K OHM 1/6W 5% CF	3
R104	QAF0650-683	68K OHM 1/6W 5% CF	1
R105, 151	QHM2050-821	820 OHM 2W 5%	2
R106, 117, 175-176	QAF0650-224	220K OHM 1/6W 5% CF	4
R108	QAF0650-123	12K OHM 1/6W 5% CF	1
R109, 110, 124, 130	QAF0650-102	1K OHM 1/6W 5% CF	4
R112	QAF0650-105	1.0 OHM 1/6W 5% CF	1
R114, 118, 122	QAF0650-223	22K OHM 1/6W 5% CF	3
R115, 154, 172	QAF0650-104	100K OHM 1/6W 5% CF	3
R116	QAF0650-364	360K OHM 1/6W 5% CF	1
R141	QAF0650- 151	150 OHM 1/6W 5% CF	1
R142	QAF0650-122	1.2K OHM 1/6W 5% CF	1
R121	QAF0650-225	2.2M OHM 1/6W 5% CF	1
R125-128, 144, 147	QAF0650-153	15K OHM 1/6W 5% CF	6
R131, 134-135	QAF0650-183	18K OHM 1/6W 5% CF	3
R136	QAF0650-164	160K OHM 1/6W 5% CF	1
R139, 170	QAF0650-222	2.2K OHM 1/6W 5% CF	2
R143	QAF0650-392	3.9K OHM 1/6W 5% CF	1
R145	QAF0650-391	390 OHM 1/6W 5% CF	1
R148, 155	QHS0250-100	10 OHM 1/2W 5% FUSEABLE	2
R149-150	QAF0250-100	10 OHM 1/2W 5% CF	2
R152-153	QHE5050-228	0.22 OHM 5W 5% CEMENT FIXED RES	2
R156	QAF0650-563	56K OHM 1/6W 5% CF	1
R169	QAF0650-333	33K OHM 1/6W 5% CF	1
R171	QAF0450-222	2.2K OHM 1/4W 5% CF 340X2222934	1
R173	QAF0650-331	330 OHM 1/6W 5% CF	1
R177	QAF0650-474	470K OHM 1/6W 5% CF	1
R181	QAF0650-274	270K OHM 1/6W 5% CF	1
R901-902	QHM1050-152	1.5K OHM 1W 5% METAL FILM	2
R903-904	QAF0650-154	150K OHM 1/6W 5% CF	2
R905-907	QAF0650-103	10K OHM 1/6W 5% CF	3
RD101	QAF0450-151	150 OHM 1/4W 5% CF	1
SVR101	QAF0650-202	2K OHM 1/6W 5% CF	1
	PVE3956-472	ELECT 4700 uF 63V 20% DIA=25 PITCH=10 mm	2
ZD102	QHM1050-561	560 OHM 1W 5% METAL FILM	1
Diodes			
BD101	RHD0402-001	RECTIFIER BRIDGE RS402L 4A	1
D101-105	RAD4001-001	RECTIFIER 1N4001 1A 35VRMS	5
D106-112	RAD4148-001	DIODE SW 1N4148	7
ZD101	RAZ0859-089	DIODE 23.6-24.7V .5W HITACHI HZ24-2	1
ZD103	RAZ0859-084	DIODE ZENR 14.5-15.1V .5W HITACHI HZ15-2	1
Transistors			
Q101-105, 109 112, 114, 115, Q120	RAN0945-001	XISTR NPN 2SC945P NEC	10
Q106, Q108	RAP0733-001	PNP 2SA733Q,P NEC	2
Q122	RHN0882-001	XISTR NPN 2SD882P	1
Q123	RHN3182-001	XISTR NPN 2SC3182N-O	1
Q121	RHP1265-001	PNP 2SA1265N-O	1

SUB10 PART LISTS (continued)

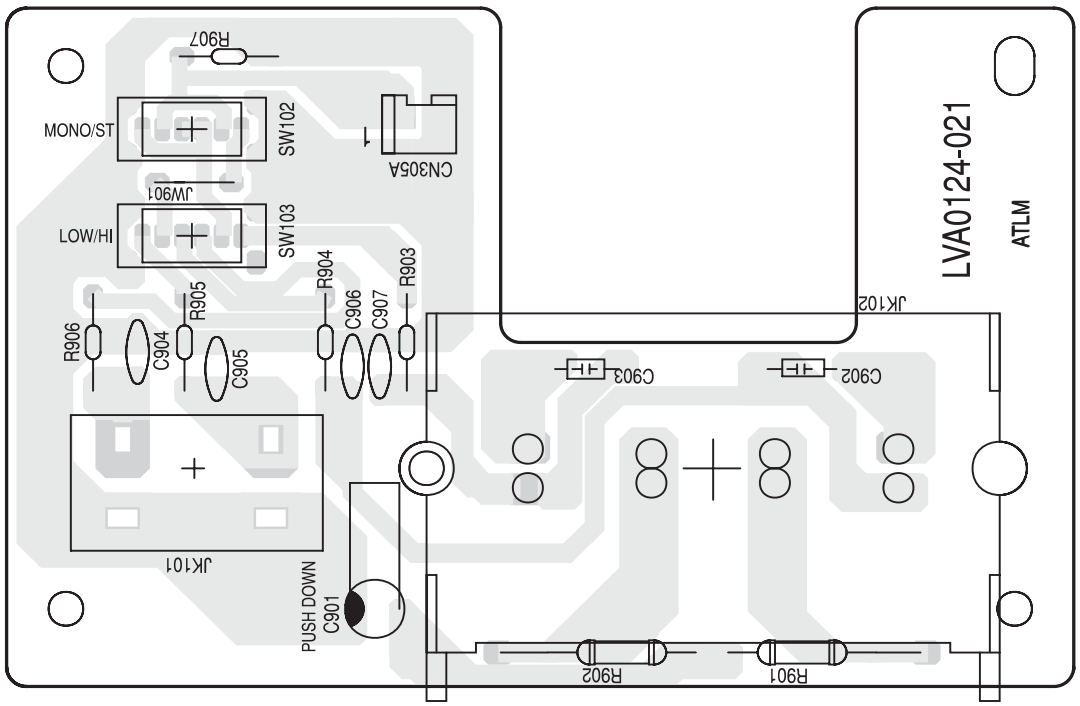
Ref No.	Part No.	Description	Qty.
Integrated Circuits			
IC101	RHI0740-001	IC 14 PIN TL074CN	1
IC102	RHI4558-001	IC 8 PIN JRC4558D JRC OP AMP	1
IC103	RHI1298-001	IC 14 PIN uPC1298V NEC 50-80W POWER AMP DRV	1
IC104	RHI7815-002	IC 3 PIN 78L15 REGULATOR POS. 15V 100mA	1
IC105	RHI7915-002	IC 3 PIN 79L15 REGULATOR NEG. 15V 100mA	1
Miscellaneous			
4999A-275(x2),	SLF0201-010	BEAD FERIT	3
CN301A	CCN1500-A18	CONNECTOR B2B-XH-A 2 PIN GOLD OVER 50 uin	1
CN305A	CCN1500-A42	CONNECTOR S2B-XH-A 2 PIN GOLD OVER 50 uin	1
CN305A TO	4999A-288	CON/WIRE 2 COND 280 mm CON GOLD PLATING	1
CN305B	CCN1500-A18	CONNECTOR B2B-XH-A 2 PIN GOLD OVER 50 uin	1
CN306	CCN3951-002	CONNECTOR 2 PIN LEOCO 3951 P=3.96 POST BASE TOP	1
CN901	CCN3941-003	CONNECTOR 3 PIN PITCH= 3.96 mm POST BASE TOP	1
CN902A	CCN3951-003	CONNECTOR 3 PIN LEOCO 3951 P=3.96 POST BASE TOP	1
F101	KSD2400-001	4A GMC SLO-BLO 5 x 20mm FUSE	1
JK101	CJR6502-002	JACK RCA HTJ032-24B-20 2 TERM KUNMING	1
JK102	CTP0014-001	SPK JACK JYE TAI CJ-9011 8P JACK (R-B-B-R)	1
L101	SHR6619-001	RF COIL 1 uH	1
LD101A	KEM0001-001	LED MULTI-COLOR TWO COLORS RED/GRN CHANG	1
RB301 TO CN301A	5002ECE9BMM	CON/WIRE 2 COND 350 mm CON GOLD PLATING	1
RB302A TO RB302C	2468824KCCK	FLAT WIRE 8 COND 240 mm COLOR	1
RB303C TO RB303A	2468310KCCK	FLAT WIRE 3 COND 100 mm COLOR	1
RB304A TO RB304C	2468724KCCK	FLAT WIRE 7 COND 240 mm COLOR	1
RB306 TO CN306	4999A-275	CON/WIRE 2 COND 300 mm	1
RB307 TO SPEAKER	4999A-273	CON/WIRE 2 COND 340 mm	1
RB902A TO CN902A	4999A-272	CON/WIRE 3 COND 270 mm	1
RL101	MRL2212-002	RELAY 12V DC 44 mA GOOD SKY	1
RL102	MRL2212-005	RPA-12V DC 10A(AC)250V	1
SW101	MSR2612-001	SW ROTARY PHASE	1
SW102-103	MSS6542-002	SW SLIDE SS020-P022(2P2T) T-MEC	2
VR101A	MRR0503-011	50Kx2 DUAL GANG FREQUENCY POT.	1
VR102A	MRR0503-008	10K VOLUME POT. w/ ON/OFF SWITCH	1
	001X0776001	PAD 3000 +-500 LBS BERQUIST 400 20x25mm	2
	GAL0039-001	HEAT SINK JBL CM-10 100W BLK	1
	GSE0073-002	PCB JBL CM-10/CM-6	2
	GSI0001-001	SI RUBBER 13x18x0.3t mm	1
	GSI0003-001	SI RUBBER 16x28x0.3t mm	1

SUB 6/10 PACKAGING VIEW

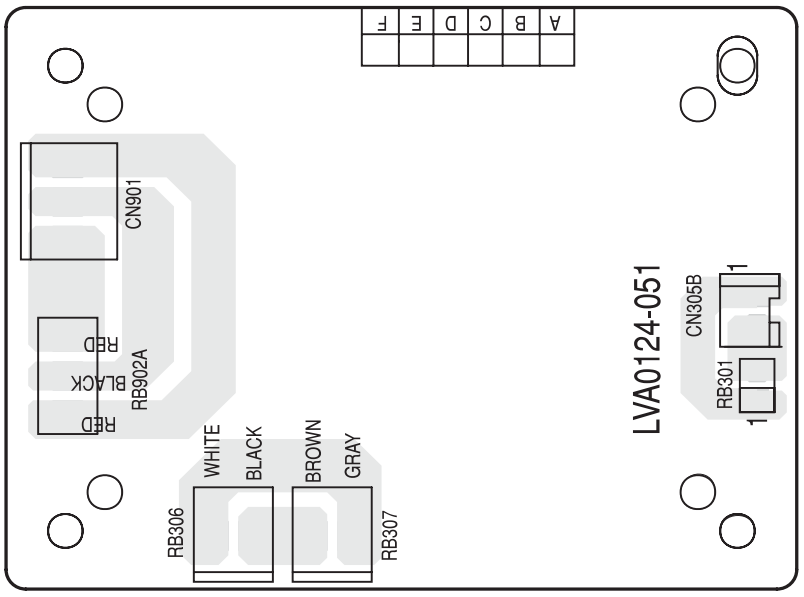


PRINTED CIRCUIT BOARDS #1

INPUT PCB Sub6/10

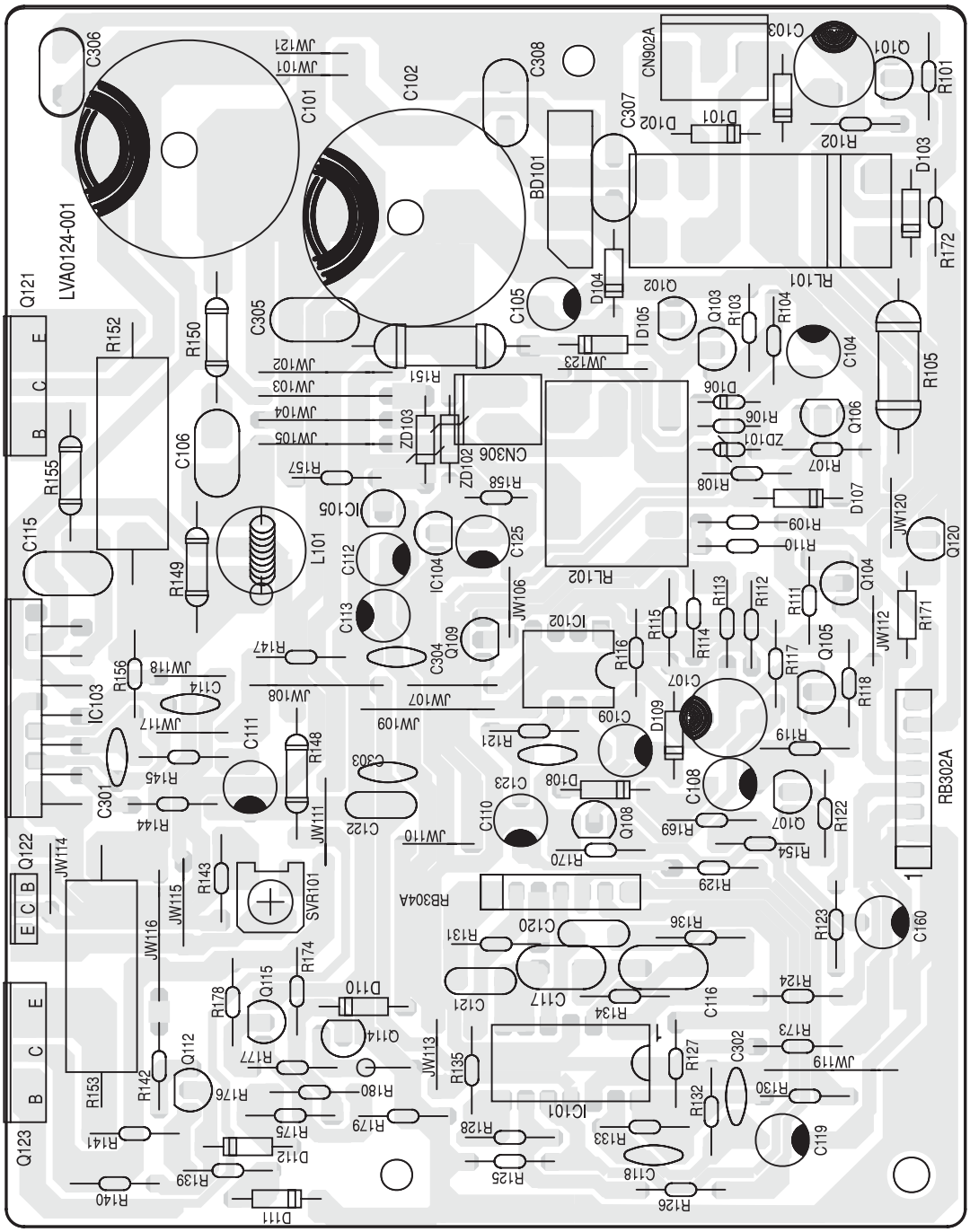


CONNECTOR PCB Sub6/10



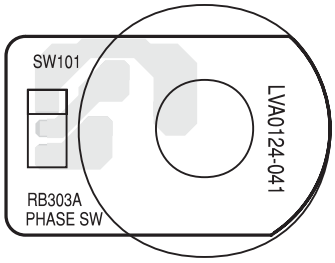
PRINTED CIRCUIT BOARDS #2

MAIN AMP PCB Sub6/10

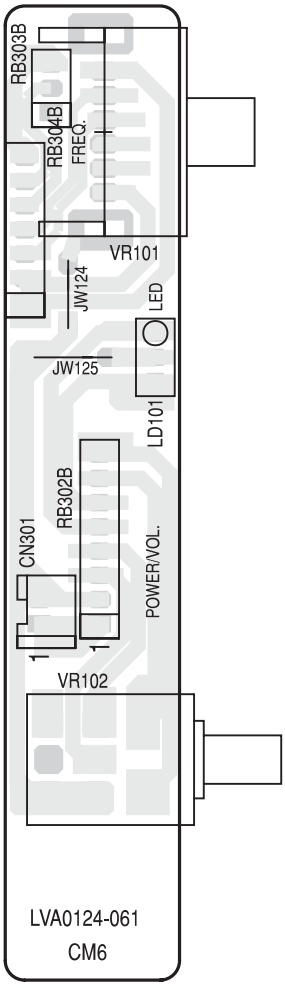


PRINTED CIRCUIT BOARDS #3

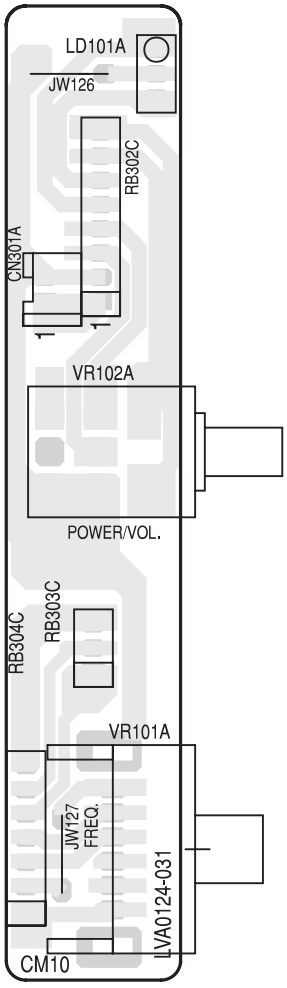
PHASE SWITCH PCB Sub6/10



Control PCB Sub6

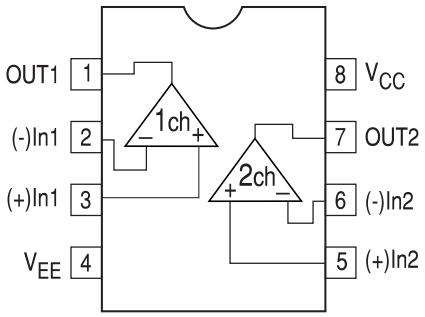


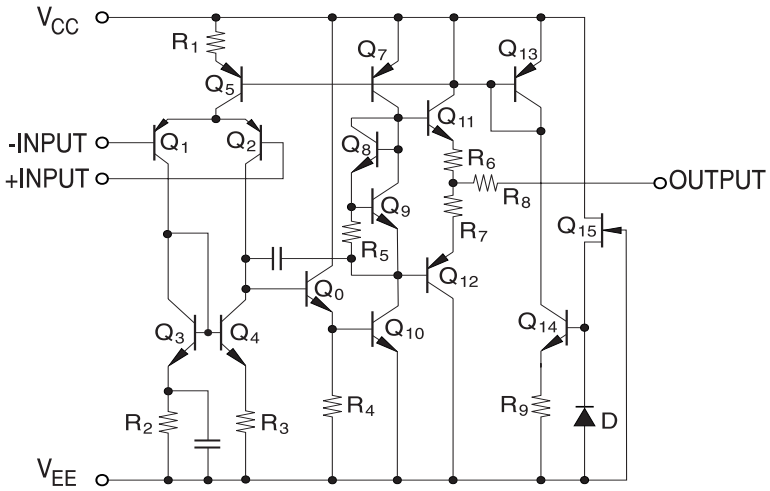
Control PCB Sub10



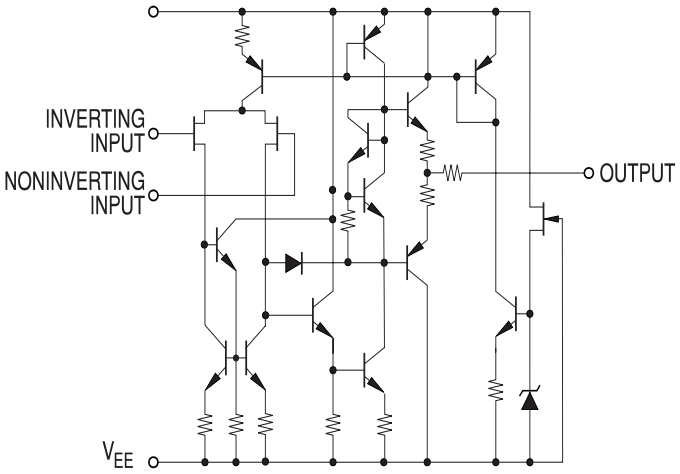
INTEGRATED CIRCUIT DIAGRAM

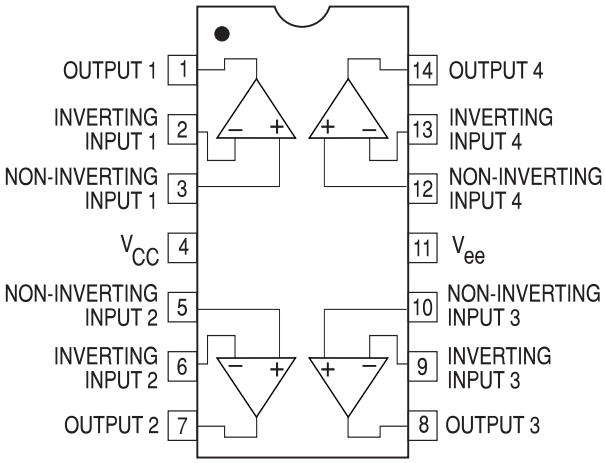
IC102, - BA4558



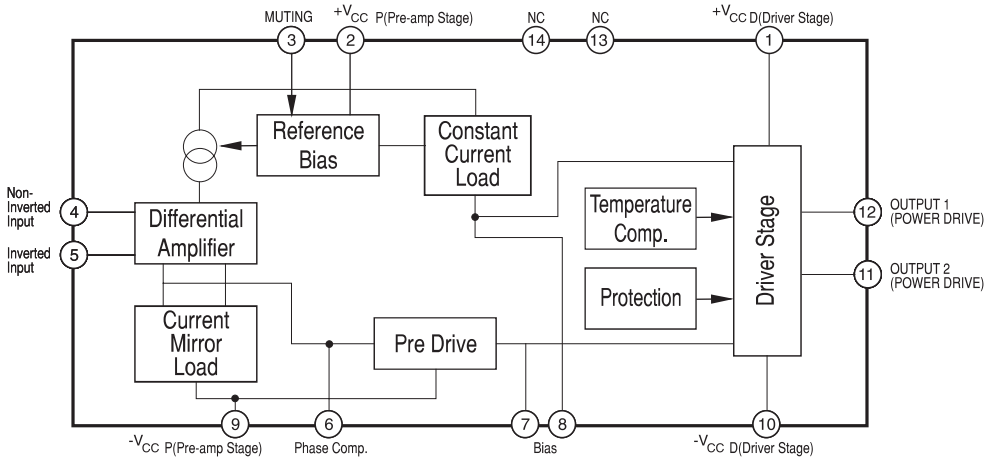


IC101 - TL074CN



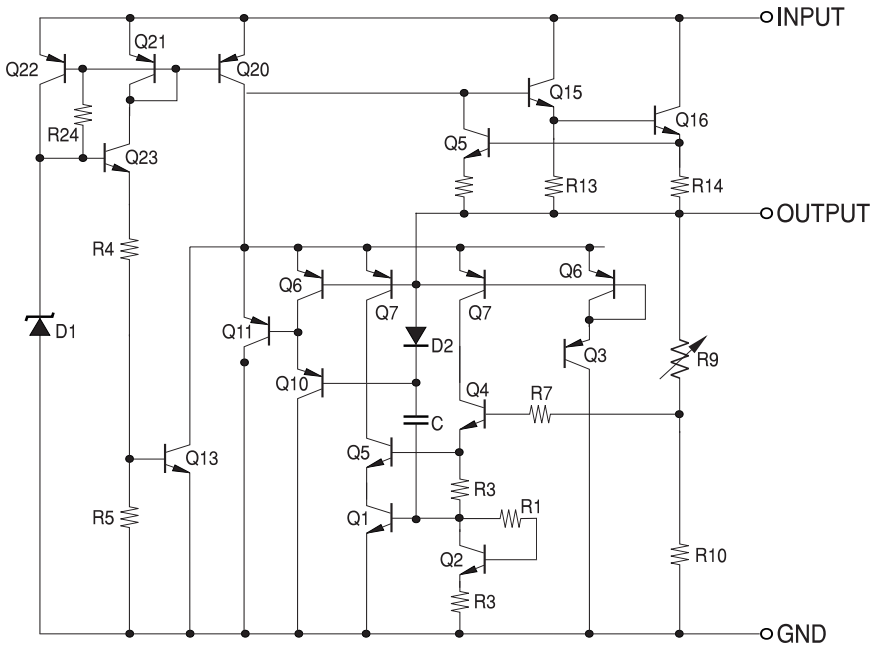


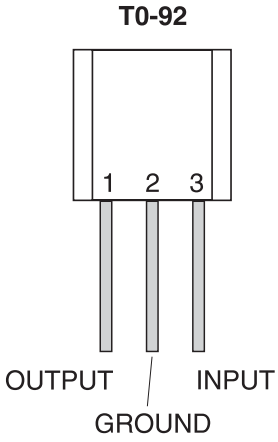
IC103 - uPC1298



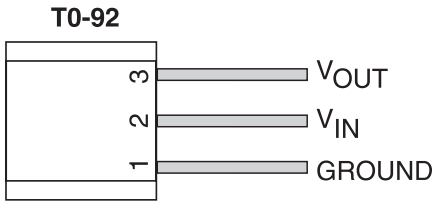
INTEGRATED CIRCUIT DIAGRAM

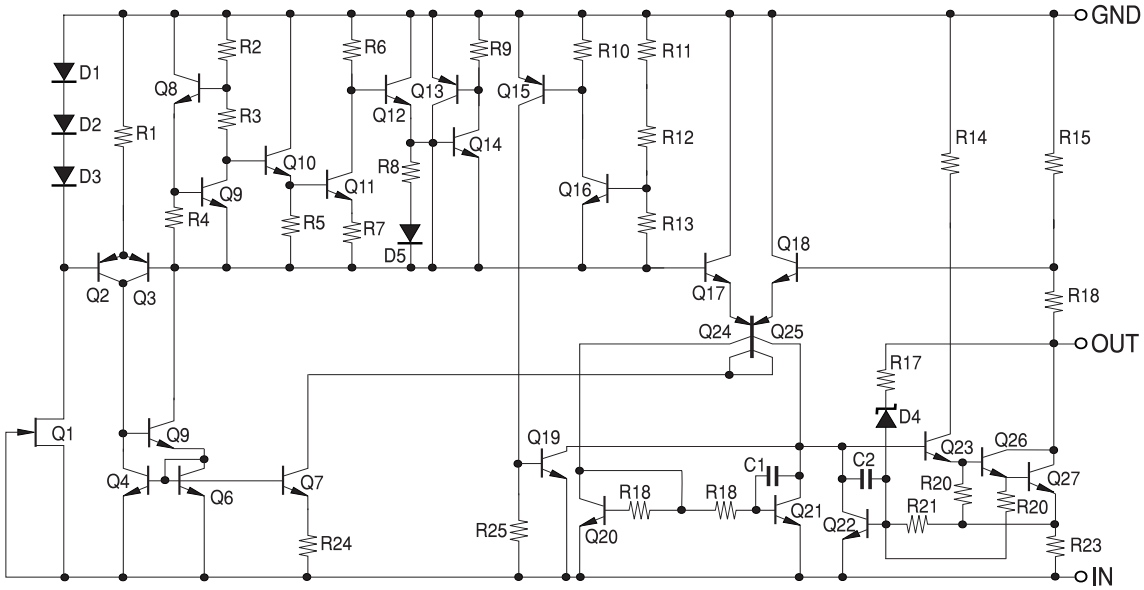
IC104 - MC78L15





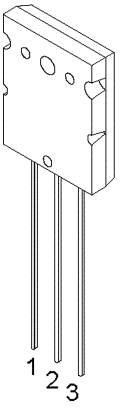
IC105 - MC79L15





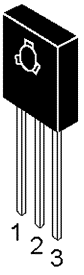
SEMICONDUCTOR DIAGRAMS

2SA1264N, 2SC3181N, 2SA1265N
Q121, 123



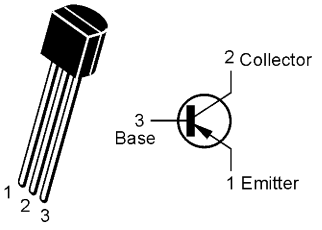
1. Base
2. Collector
3. Emitter

2SD882P
Q122

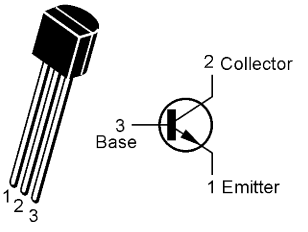


1. Emitter
2. Collector
3. Base

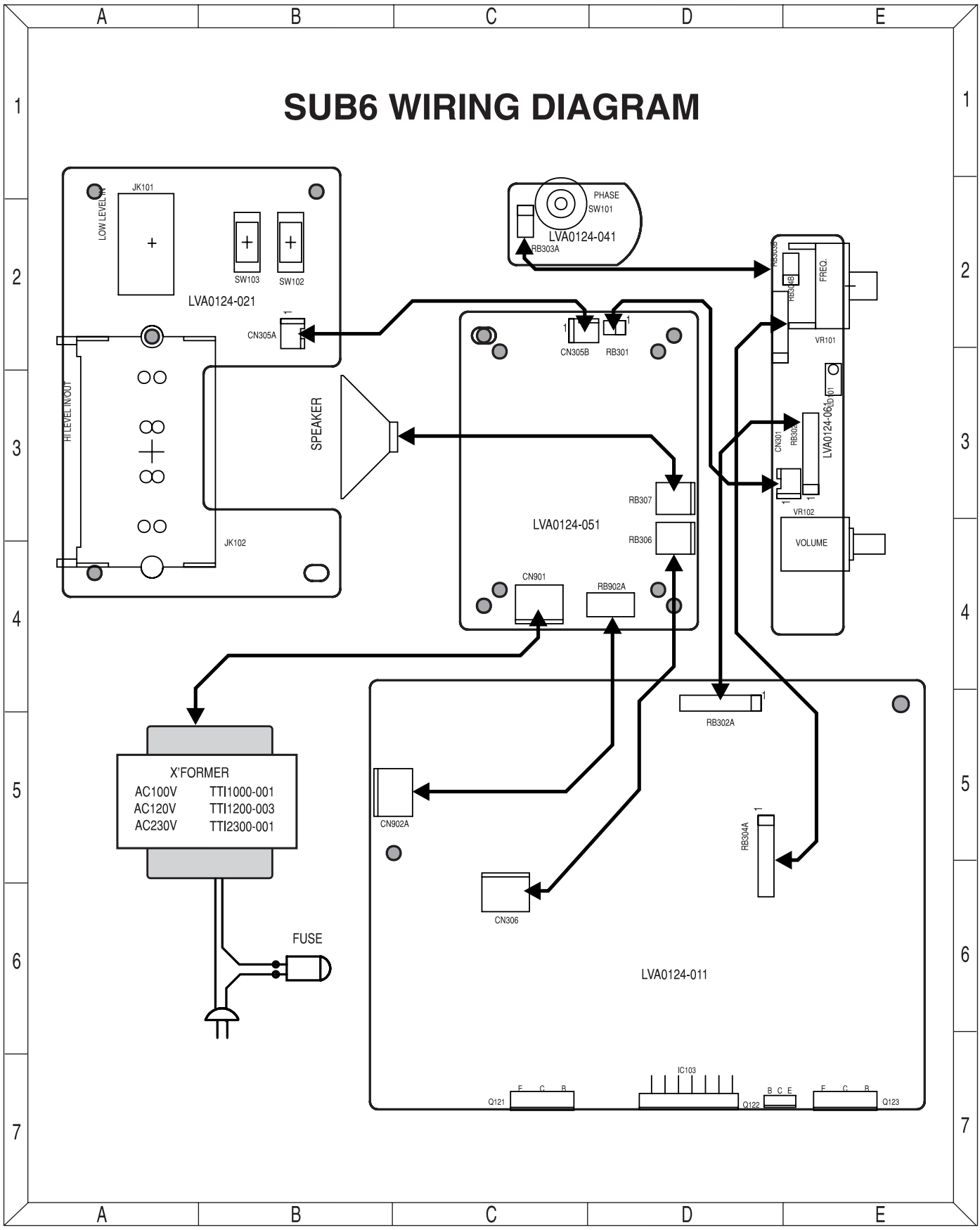
2SA733Q
Q106, 108



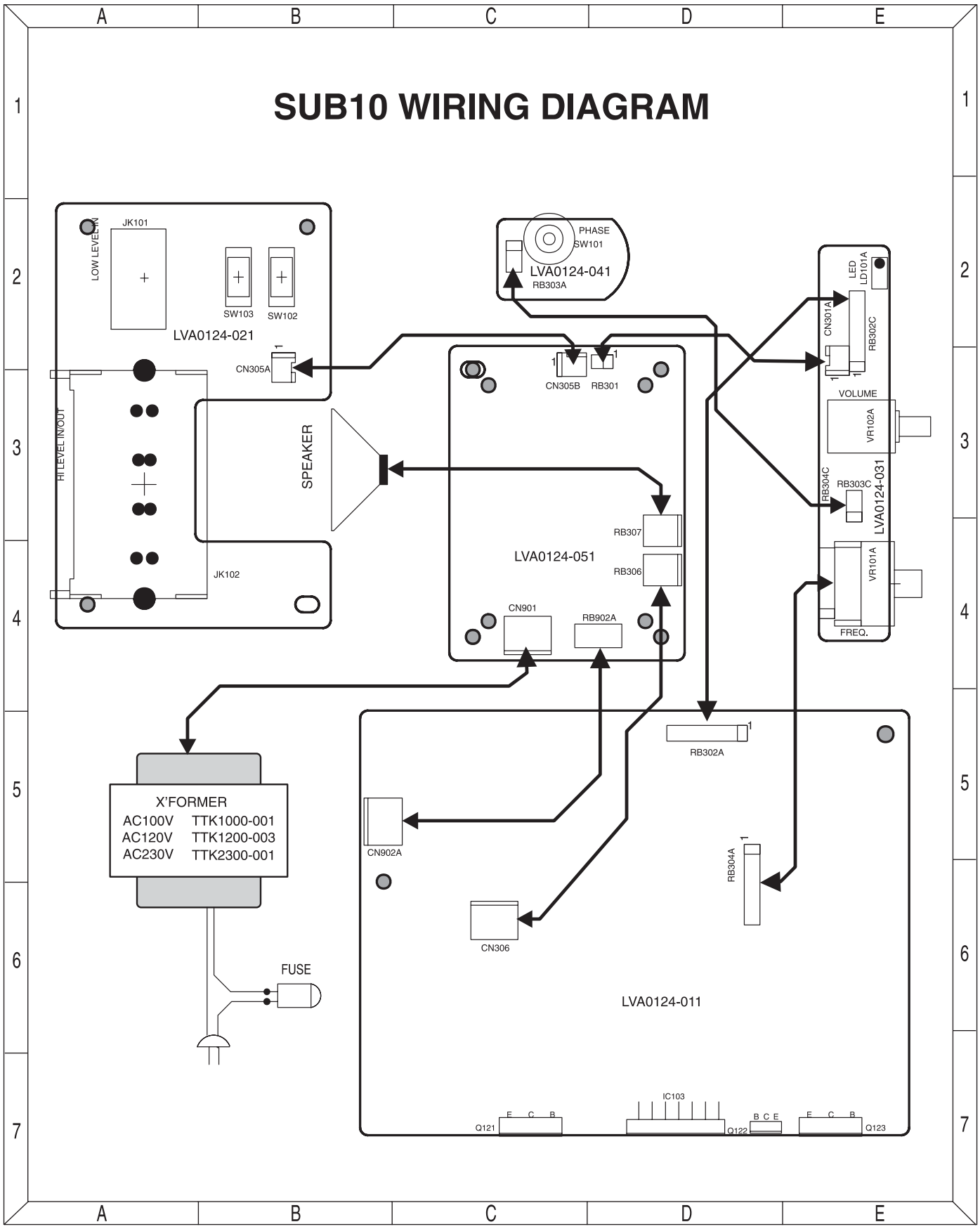
2SC945P
Q101-105, 107, 109, 112, 114, 115, 120

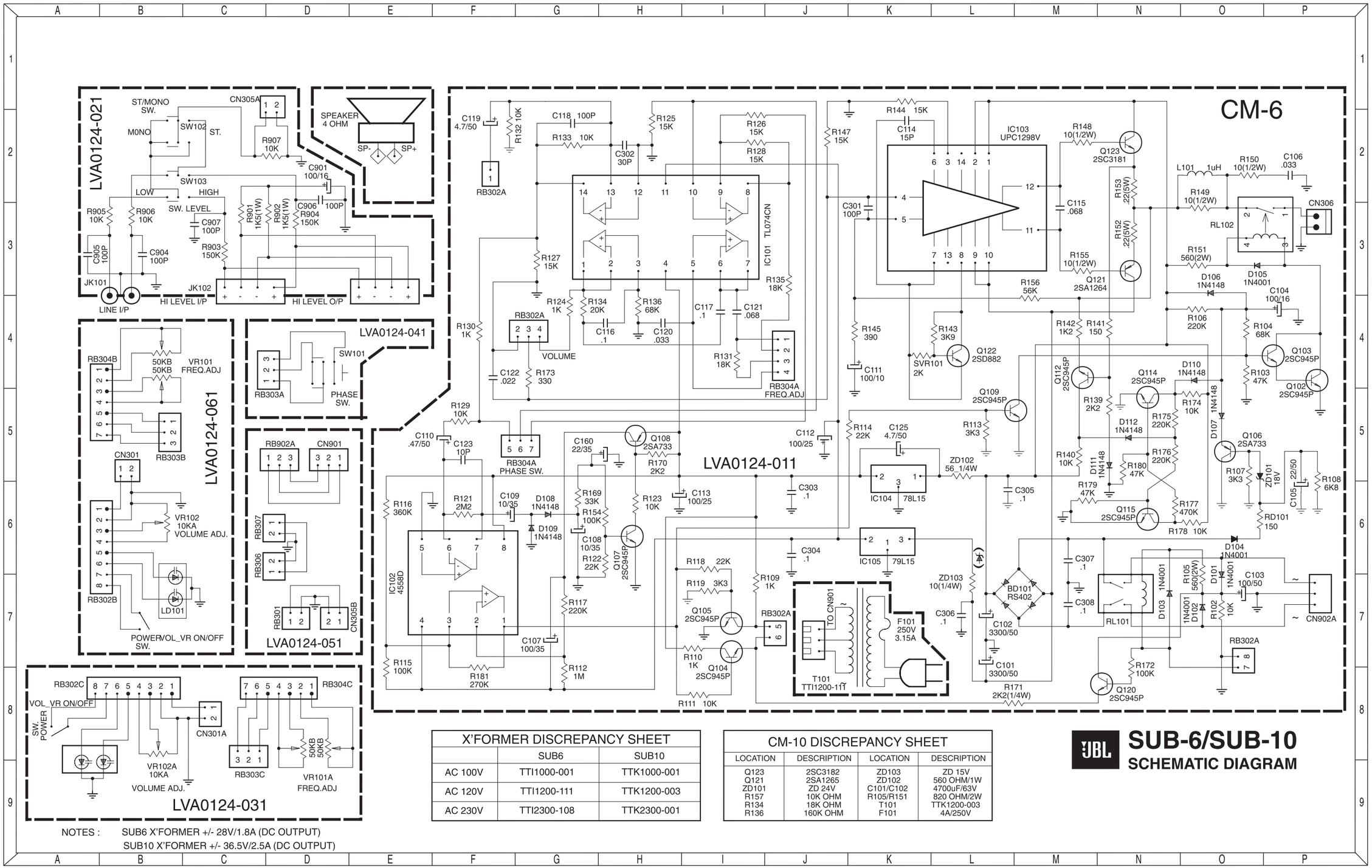


SUB6 WIRING DIAGRAM



SUB10 WIRING DIAGRAM



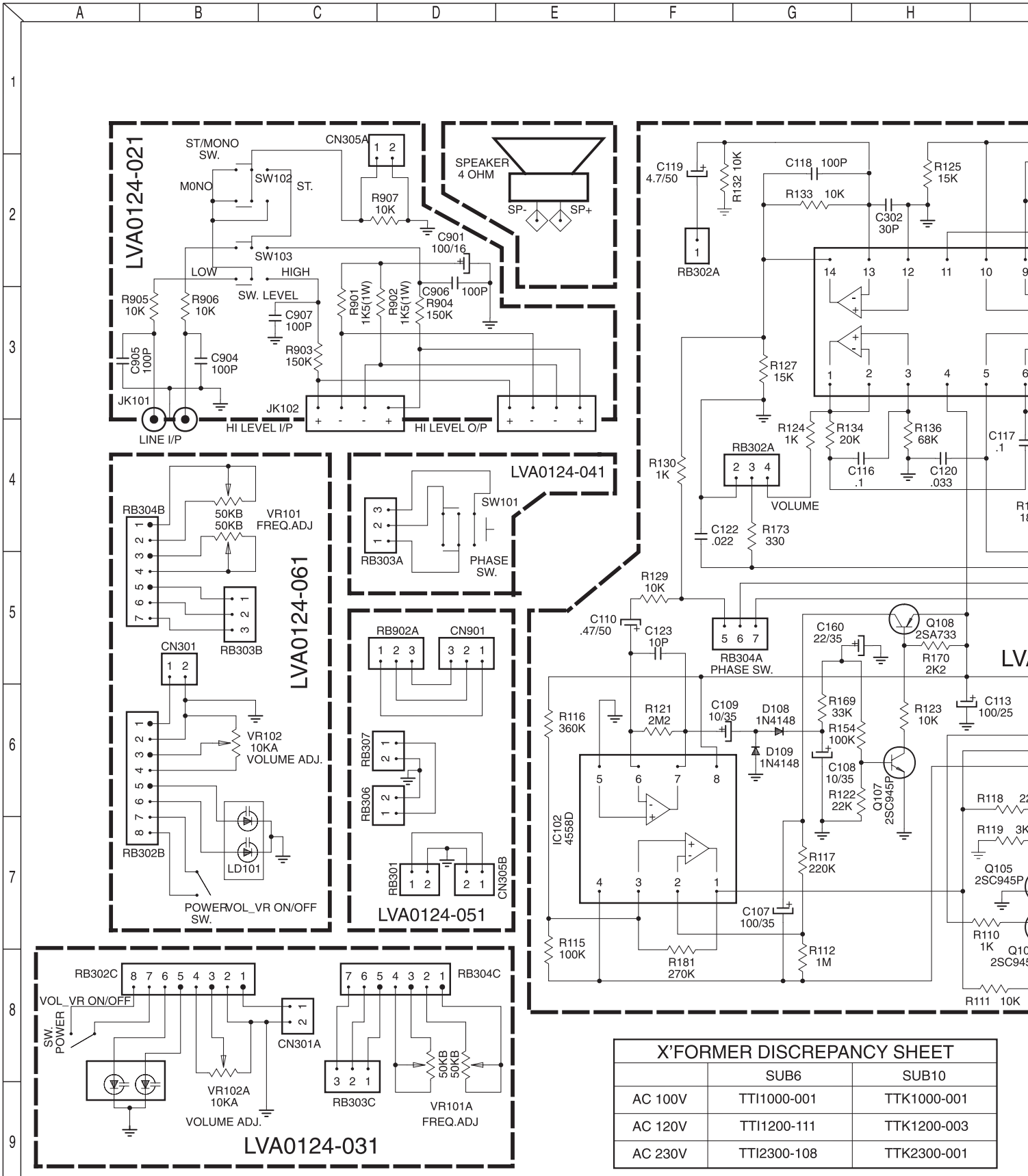


X'FORMER DISCREPANCY SHEET		
	SUB6	SUB10
AC 100V	TTI1000-001	TTK1000-001
AC 120V	TTI1200-111	TTK1200-003
AC 230V	TTI2300-108	TTK2300-001

CM-10 DISCREPANCY SHEET			
LOCATION	DESCRIPTION	LOCATION	DESCRIPTION
Q123	2SC3182	ZD103	ZD 15V
Q121	2SA1265	ZD102	560 OHM/1W
ZD101	ZD 24V	C101/C102	4700uF/63V
R157	10K OHM	R105/R151	820 OHM/2W
R134	18K OHM	T101	TTK1200-003
R136	160K OHM	F101	4A/250V

NOTES : SUB6 X'FORMER +/- 28V/1.8A (DC OUTPUT)
SUB10 X'FORMER +/- 36.5V/2.5A (DC OUTPUT)

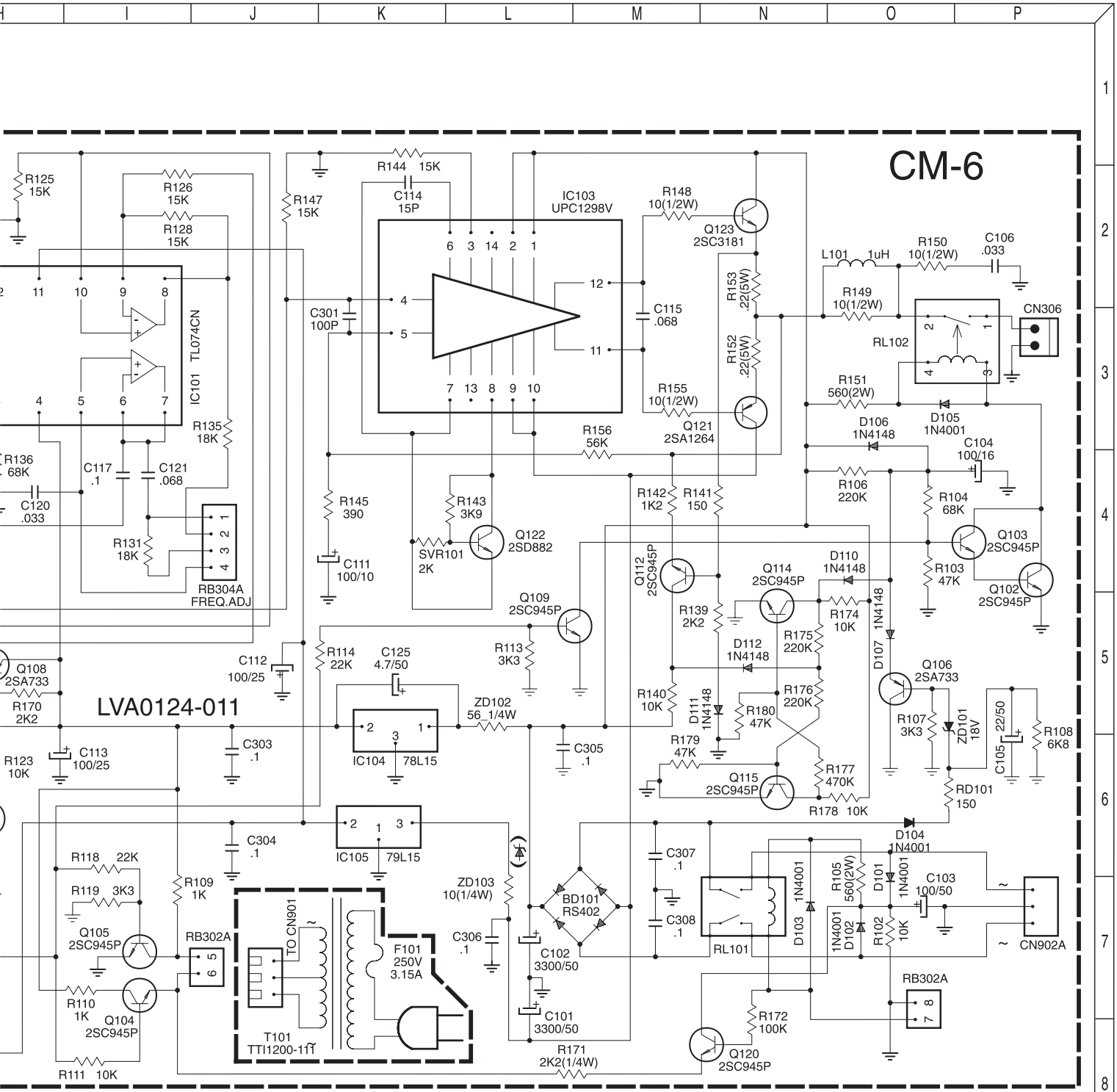
SUB-6/SUB-10
SCHEMATIC DIAGRAM



X'FORMER DISCREPANCY SHEET		
	SUB6	SUB10
AC 100V	TTI1000-001	TTK1000-001
AC 120V	TTI1200-111	TTK1200-003
AC 230V	TTI2300-108	TTK2300-001

NOTES : SUB6 X'FORMER +/- 28V/1.8A (DC OUTPUT)
SUB10 X'FORMER +/- 36.5V/2.5A (DC OUTPUT)

SCHEMATIC DIAGRAM



HEET
UB10
1000-001
1200-003
2300-001

CM-10 DISCREPANCY SHEET

LOCATION	DESCRIPTION	LOCATION	DESCRIPTION
Q123	2SC3182	ZD103	ZD 15V
Q121	2SA1265	ZD102	560 OHM/1W
ZD101	ZD 24V	C101/C102	4700uF/63V
R157	10K OHM	R105/R151	820 OHM/2W
R134	18K OHM	T101	TTK1200-003
R136	160K OHM	F101	4A/250V

JBL SUB-6/SUB-10
SCHEMATIC DIAGRAM